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- (54) Title of the Invention: PHOTSENSITIVE COMPOSITION AND
PHOTSENSITIVE PLANOGRAPHIC PRINTING PLATE MATERIAL
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Specification

1. Title of the Invention

PHOTSENSITIVE COMPOSITION AND PHOTSENSITIVE
PLANOGRAPHIC PRINTING PLATE MATERIAL

2. Claims

(1) A photosensitive resin composition comprising (a)
a compound capable of generating an acid by an irradiation of

an actinic ray, (b) a compound having at least a bond which can be decomposed by an acid, and (c) a novolak resin containing at least three different phenols.

(2) A photosensitive planographic printing plate material formed by providing, on a substrate, a photosensitive layer principally constituted of (a) a compound capable of generating an acid by an irradiation of an actinic ray, (b) a compound having at least a bond which can be decomposed by an acid, and (c) a novolak resin containing at least three different phenols.

3. Detailed Description of the Invention

It is however found that the photosensitive composition, when a novolak resin formed by a single phenol and formaldehyde, such as a phenol-formaldehyde novolak resin or a m-cresol-formaldehyde novolak resin is employed therein, shows drawbacks of a deteriorated resistance to the processing chemicals, and a narrower developing latitude at the developing process.

Therefore an object of the present invention is to provide an improved photosensitive composition, having a high sensitivity and a wide developing latitude at the developing process.

Also another object of the present invention is to provide a photosensitive composition improved in a resistance

to processing chemicals, still having a high sensitivity.

As a result of intensive investigations undertaken by the present inventors, it is found that the aforementioned objects can be accomplished by a photosensitive composition including (a) a compound capable of generating an acid by an irradiation of an actinic ray, (b) a compound having at least a bond which can be decomposed by an acid, and (c) a novolak resin containing at least three different phenols, and that the aforementioned objects can be accomplished by a photosensitive planographic printing plate material, containing the aforementioned photosensitive composition as a principal component in a photosensitive layer.

The present invention will be explained below in detail.

In the present invention, a compound having a bond which can be decomposed by an acid is, for example, a compound having a $\equiv\text{C}-\text{O}-\text{C}\equiv$ bond or a $\equiv\text{Si}-\text{O}-\text{C}\equiv$ bond, or a compound having a $\equiv\text{C}-\text{O}-(\text{C}=\text{O})-$ bond or a $\equiv\text{Si}-\text{O}-(\text{C}=\text{O})-$ bond.

Specific examples of the compound having $\equiv\text{C}-\text{O}-\text{C}\equiv$ bond include a compound having an acetal or ketal group, a compound having an orthocarboxylic acid ester group and/or a carboxylic acid amide acetanol group as described in JP-A-51-120714, a polymer having an acetal or ketal group in a main chain as described in JP-A-53-133429, a compound containing an enol ether group as described in JP-A-55-12995, a compound having

an N-acyliminocarbonate salt group as described in JP-A-55-126236, and a polymer having an orthocarboxylic acid ester group in a main chain as described in JP-A-56-17345.

Such compound decomposable with an acid may be employed singly or in a mixture of two or more kinds.

A content of such compound decomposable with an acid is preferably from 5 to 70 wt% with respect to all the solids in the photosensitive resist-forming composition, and particularly preferably from 10 to 50 wt%.

The photosensitive resin composition of the present invention is required to contain a novolak resin containing at least three different phenols.

The novolak resin of the present invention may be a mixture of three or more novolak resins, each containing only one phenol as the phenols (phenol components of the respective novolak resins being different each other), or a mixture of at least a copolycondensed novolak resin containing two phenols as the phenols and at least a novolak resin containing a phenol (mixture of these resins containing at least three phenol components), or a mixture of two or more copolycondensed novolak resins containing two phenols as phenols, or a copolycondensed novolak resin containing at least three phenols as the phenols, but it is preferable to employ a copolycondensed novolak resin containing at least three

phenols as the phenols, namely a copolycondensed substance of at least three different phenols and an active carbonyl compound.

Among these, a most preferred novolak resin is a phenol-m-cresol-p-cresol-formaldehyde novolak resin, formed from phenol, m-cresol, p-cresol, and formaldehyde. Also a molar ratio of phenol at the charging molar ratio in the synthesis is preferably within a range of from 2 to 60 %, and more preferably within a range of from 5 to 40 %.

In the photosensitive composition of the present invention, there may added, in addition to the materials explained above, a dye, a pigment, a plasticizer and the like if necessary. Also if necessary for the purpose of use, so-called sensitizers (a compound increasing an acid generating efficiency of the compound capable of generating an acid) may be added.